





•



# Applying an Interdisciplinary Model for Promoting the Study of Humanities & Social Sciences: the Case of Zayed University (UAE)

Sabrina Joseph<sup>1</sup>

#### **Abstract**

The increasing popularity of interdisciplinary programs, courses, and pedagogies in the humanities and social sciences (especially in the realm of general education) has been well documented and examined in the West, particularly in the United States. This research has yielded important findings that can and should be examined in a broader international context. The literature, however, provides little substantial analysis of interdisciplinary programs in universities across the world, particularly in the Middle East/ Gulf region.

Using Zayed University as a case study, I will discuss how interdisciplinary courses and curriculums are being used to structure and promote the study of the humanities and social sciences at the general education level and at the majors level within the program of International Studies. I will then go on to address the successes and challenges that have confronted both the implementation of the Global Awareness sequence within the general education program and the International Studies major. Overall, the interdisciplinary model has been an effective approach in promoting the study of the humanities and social sciences within a region that has tended to place greater value or emphasis on those majors and courses that are tailored to the immediate demands of the marketplace.

### I. Introduction

The increasing popularity of interdisciplinary programs, courses, and pedagogies in the humanities and/ or social sciences (especially in the realm of general education) has been well documented and examined in the West, particularly in the United States (Klein 1990, 1996, 2005; Burton, 2001). This research has yielded important findings that can and should be examined in a broader international context. The literature, however, provides little substantial analysis of interdisciplinary programs in universities across the world, particularly in the Middle East/ Gulf region. Given the significant growth in tertiary education, particularly in the Gulf, during the past ten years, a study of university curriculums is essential.

Using Zayed University (ZU) as a case study, I will discuss how interdisciplinary courses and curriculums are being used to structure and promote the study of the humanities and social sciences at the general education and majors levels. ZU is an English-medium, U.S. style





<sup>&</sup>lt;sup>1</sup> Co-Chair, Department of Humanities and Social Sciences, Zayed University, Dubai, UAE. PhD in History from Georgetown University, 2005. E-mail: Sabrina.Joseph@zu.ac.ae.



institution recently accredited by the Middle States Commission on Higher Education. While predominantly made up of UAE national women, the university has recently opened its doors to national men as well as international students in general. My paper will cover how both the general education (referred to at ZU as 'colloquy') and International Studies curriculums at Zayed University approach the issue of 'interdisciplinarity' in the study of the humanities and social sciences. I will then go on to address the successes and challenges that have confronted the implementation of the Global Awareness sequence (made up of three required courses) within the general education program, and the advantages and disadvantages associated with both an interdisciplinary department (Dept. of Humanities & Social Sciences) and an interdisciplinary major (International Studies). Ultimately, the interdisciplinary model has been an effective approach to promoting the study of the humanities and social sciences in a context where educational offerings are heavily geared towards those fields deemed as best capable of preparing students for the job market—i.e. Business and IT.

### II. The Scholarship on Interdisciplinary Studies

Interdisciplinary curriculums and the scholarship on the latter are not a recent phenomenon, but rather date back at least three decades. The literature on the subject has provided insight into interdisciplinary learning experiences as opposed to 'multidisciplinary,' 'cross-disciplinary,' or 'transdisciplinary' experiences (Klein, 2005; Nowacek, 2005). Both the Council of Arts Accrediting Association (CAAA) and the Association for Supervision and Curriculum Development (ASCD) put forth formal definitions of these terms in the late 1980s and early 1990s (Jacobs, 1989; CAAA, 1994), emphasizing the spread of interdisciplinary programs and integrated curriculums across the US (Burton 2001, 17). While numerous scholars have expressed a preference for approaches that move beyond disciplinary boundaries (Miller, 1982; Kelly, 1996; Klein, 2005), others have also expressed a cautious reserve about interdisciplinary programs and/ or curriculums that in practice often do not do justice to the disciplines (Burton, 2001). Unlike multidisciplinary models, for example, which do not integrate or explicitly analyze disciplinary perspectives but simply present them side by side, interdisciplinary approaches "restructure the curriculum with explicitly integrative seminars and experiences that are typically theme-, problem-, or question-based" (Klein, 2005, p. 9). While there is a broad consensus that some degree of synthesis of disciplinary perspectives is at the heart of interdisciplinary approaches, the scholarship is also in agreement that there is no consensus on how this is defined, that there are various pedagogies for interdisciplinary learning, and that there are certain challenges in implementing interdisciplinary curriculums. Nowacek's (2005) research, for example, highlights the importance of understanding how interdisciplinary connections are perceived and constructed by students and instructors in the classroom setting. This has important implications for those assessing interdisciplinary programs and in determining how 'synthesis' is defined, constructed, and measured in the context of such programs. Garder, Wissick, Schweder, and Canter's (2003) research examines how thematic units and the use of technology can enhance interdisciplinary instruction for special education instructors. While such a thematic strategy is certainly employed in the context of university general education and majors courses, there has also been criticism that courses structured around a particular theme are not always integrative enough of various disciplines (Burton, 2001). Overall, the literature has documented numerous strategies that have been employed in structuring and delivering interdisciplinary courses including: team teaching, organizing courses around a particular theme, interdisciplinary seminars at the introductory and capstone levels, collaborative learning, and paired courses (Abrahamson, et al, 2002; Klein, 2005).







The successful implementation of such strategies, however, has often been challenging due to certain problems confronting interdisciplinary curriculums. Such challenges center on structure, content, and delivery of material. Perhaps one of the more fundamental problems confronting interdisciplinary programs is the lack of agreement regarding what exactly constitutes 'synthesis' and 'integration' (Nowacek, 2005, p. 191). Does this mean, for example, that all content and methodology associated with a particular discipline can and should be integrated with that of another discipline? Should discipline-specific experiences be incorporated into interdisciplinary programs and if so how? There is some support for the latter as necessary for the long term viability of interdisciplinary programs (Burton, 2001, p. 18). According to Burton, "the structures of the disciplines must be known and understood before authentic connections and linkages can be made" (Burton, 2001, p. 17). This requires that instructors possess or gain a certain mastery of materials in disciplines outside of their own. Professional development opportunities that provide faculty with some training in the theories and methods associated with interdisciplinary curriculums are invaluable but often not provided. This is particularly true in the case of general education programs which often times have limited funding, no chair or head of their own, and must rely on faculty from various departments (Abrahamson, et al, 2002, p. 591). Finally, a somewhat related problem concerns territorial issues among faculty from diverse disciplines teaching interdisciplinary courses. More comparative research is needed here to assess how team-taught or paired courses impact faculty collaboration across disciplines, and how the academy values faculty leadership and contributions in their pursuit of enhancing interdisciplinarity within the institution.

## III. Interdisciplinary Studies in the broader International Context and Within the Middle East/ Gulf Region

While interdisciplinary programs in the social sciences and/ or humanities have increased in the past decade across the developing world, there has been limited research done to examine the nature of these programs, particularly in the context of the Middle East/ Gulf region. The existing research on higher education in various parts of Asia and Africa, for example, has focused largely on the relationship between development, globalization and education<sup>2</sup>. This scholarship has highlighted, however, that higher education in developing countries has tended to place greater emphasis on programs that focus on science and technology rather than the humanities and social sciences (Downes, 2003; Green, et al, 2007; Webb, 2008). This is partly due to the support offered to such programs by developing states and popular perceptions regarding what constitutes a lucrative and/ or 'prestigious' career.

In the context of the Arabian Gulf, higher education has expanded rapidly during the past ten years. The region has witnessed the proliferation of both state-funded institutions of higher education as well as private universities, several of which are satellite campuses of US universities. In spite of this dramatic transformation, research on university curriculums in the region remains limited. The literature remains primarily concerned with the intersection between modernity and education as well as politics and education in the broader Arab world (Shaw, 2006; Mazawi, 2006; Nir, 2006; Macpherson, et al, 2007; Findlow, 2008; Davidson, 2008; Schulz, 2008), the onslaught of Western universities and/or Western (particularly US) university models in the region (Krieger, 2008; Mills, 2008), and, to a lesser extent, women's access to higher education (Kirdar, 2006).





<sup>&</sup>lt;sup>2</sup> An exception to this is an early article on interdisciplinary orientations in the teaching of the social sciences in India by Yogendra Singh (1979)



### IV. The Role of Humanities and Social Sciences within General Education at ZU

Beginning in 2003, ZU initiated the Colloquy on Integrated Learning, a general education curriculum. The goal of the program as spelled out on the university's website is to ..build students' abilities to think critically about the relationship between local contexts and global forces through a comparative engagement with the world, its histories, its problems, and its successes. At the same time, students are prepared to work in their major field of study and in their professions through systematic development of their abilities in critical thinking, computer applications, information literacy, and in Arabic and English language (http://www.zu.ac.ae/colloquy/, accessed March 2, 2009).

The learning goals of the colloquy curriculum include global awareness, critical thinking and quantitative reasoning, information technology, leadership, information literacy, and written and oral proficiency in both English and Arabic. During the first three semesters of the BA program, students enroll in standardized core courses that incorporate the following elements: a sequence of math, computing applications and science courses that integrate quantitative reasoning and computing applications with the sciences; an English composition writing sequence as well as a sequence in Arabic composition and writing; and finally, an interdisciplinary global awareness sequence that integrates the humanities and the social sciences. As students transition into their majors, they enroll in courses in the Colleges that systematically continue the development of the University-wide learning goals.

Of the six learning goals according to which students are assessed, the global awareness sequence is charged with ensuring that students achieve two goals in particular—global awareness and information literacy. The university website defines these two learning outcomes as:

Global Awareness. Students will be able to conceptualize the historical and contemporary impact of global forces on their local contexts while at the same time being able to acknowledge, appreciate, and understand the artistic, cultural, and political values and beliefs of others.

Information Literacy. Students will be able to analyze the nature and extent of their information needs, evaluate sources critically, and effectively communicate their findings (http://www.zu.ac.ae/colloquy/, accessed March 2, 2009).

The three courses that make up the sequence are organized both historically and thematically with the first course in the sequence focusing on the 'Emerging Civilizations', the second course on 'Imperial Encounters' and the third on the 'Twentieth Century'. Each of the three individual courses is further structured around specific themes that relate to: politics and the state; trade and economy; social, cultural, scientific developments; and art and architecture. In the context of each of these courses, students are exposed to both secondary and primary readings (including literature, journals, autobiographies, treaties, treatises, philosophy, etc.). Both the curriculum and the assignments in the courses are designed to encourage students to think comparatively while also providing them with the tools to think about the impact of cross-cultural encounters on local, regional and global processes. The courses also complement the two required colloquy courses students take in Arabic and Islamic Studies (Islamic Civilization I and II) which are delivered in Arabic and provide background on the historical, cultural, and political developments in the Arab and broader Muslim worlds.

The commitment of the sequence (and the Colloquy in general) to providing an interdisciplinary education is supported by both the structure of the sequence itself as well as by the administrative framework that oversees the delivery of the general education curriculum. The underlying







historical framework of the courses overall as well as the combined comparative and thematic approach guiding the curriculum in this sequence serve to strengthen the 'interdisciplinarity' of the courses. This is further aided by the fact that each of the courses is assigned a coordinator who is responsible for providing guidance and support to faculty on curricular, administrative and pedagogical matters. This is crucial in providing faculty from various disciplinary backgrounds the tools for teaching interdisciplinary courses. Finally, unlike many general education programs in the US (Abrahamson, et al, 2002, p. 591), the ZU colloquy program has its own Dean and is housed within a separate College (University College) which employs its own core of full-time faculty. Thus, while courses within the global awareness sequence are taught primarily by faculty within the College of Arts & Sciences (CAS), specifically the Department of Humanities and Social Sciences, there are some University College faculty who also teach these courses. General education's representation at the administrative level helps promote a cohesive curriculum as well as ensure that the program has its own advocate. This undoubtedly contributed to the favorable comments made regarding ZU's general education program by the Middle States Commission on Higher Education in their Evaluation report on the University in April 2008. Significant accomplishments highlighted by the report in regards to general education which emanate from some of the strengths of the program alluded to above include:

Existence of a very strong, distinctive, outcomes-inspired and mission-driven general education program that has aligned its goals with the six institution-wide ZULOs (Zayed University Learning Outcomes), facilitating student proficiency in oral and written communication (in both English and Modern Standard Arabic), critical thinking, scientific and quantitative analysis, and technological competency (Kneedler, et al, 2008, p. 16 -17).

ZU's commitment to ongoing assessment and utilization of assessment data in continuous improvement of general education offerings and pedagogy is outstanding and could be models of best practices in the field....

The commitment of the Faculty, particularly in the Arts and Sciences College, to the General Education program is extraordinary (Kneedler, et al, 2008, p. 18).

Given the recent nature of the general education curriculum at the university, there are, however, certain challenges that confront the program in its humanities and social science courses. For one, faculty in the Department of Humanities and Social Sciences are often confused about administrative boundaries between Colloquy and the College of Arts & Sciences of which they are a part. Secondly, providing faculty members from specific disciplinary backgrounds with the appropriate training in interdisciplinary education continues to be a challenge. One possible solution might be to provide more formalized professional development training for course coordinators throughout their tenure. While coordinators are usually intimately familiar with the course content and material, they are less well versed in the methods and paradigms that define various disciplines. A final challenge, closely related to the latter, revolves around achieving consensus on what exactly constitutes 'interdisciplinary synthesis.' The ongoing debates regarding this provide as much of a challenge as they do an opportunity to reinvigorate the program and ensure that it remains dynamic rather than static.

### V. Program in International Studies

The degree of International Studies is offered through the Department of Humanities and Social Sciences, an interdisciplinary department made up of faculty with backgrounds in history, political science, anthropology, sociology, literature, and area studies. In addition to a major in







International Studies, the department (as of Fall 2008) also offers a minor in English Literature. While degree programs in International Studies exist at other institutions in the UAE3, the creation of two proposed specializations within the International Studies program at ZU offers a unique interdisciplinary perspective not available anywhere else in the Gulf region. The two concentrations offered in the major are 'Culture and Society' and 'International Affairs.' The first concentration offers students an interdisciplinary approach grounded in the humanities and social sciences for understanding social institutions and cultural production over time. The specialization in 'International Affairs' focuses on state power, international and global institutions, and contemporary political issues. There are a certain number of core courses which are common to both concentrations including: World History, Comparative Intellectual Traditions, Social and Economic Trends in the Gulf or History of the UAE, Introduction to International Relations, Introduction to Culture and Society, Comparative Sociology, Politics of Identity, and two area studies courses. In addition to these courses, there are certain required courses within each concentration. Within 'International Affairs,' students are required to take at least one course from within a menu of courses in law and diplomacy and one from a menu in political economy. Those students pursuing a 'Cultural and Society' concentration must take Popular Cultures or World Cinemas. Both these courses have a menu of six world regions to choose form (Middle East, East Asia, Africa, Europe, Americas, South and Southeast Asia). Students from both concentrations are required to take at least one Special Topics course. This course draws on the multi-disciplinary strengths of faculty within the program and allows students the opportunity to explore different areas of scholarship.

Other common requirements for students in the International studies program in general include completion of a ten week internship and a research-intensive capstone project in the last two semesters. As part of the latter, students are required to take Research Methods, Capstone Seminar I, and Capstone Seminar II. The first two courses (taken simultaneously for ten weeks prior to the internship) essentially provide students with insight into different methodological and theoretical approaches and are largely organized around student projects. During the Capstone Seminar II, students are engaged in data collecting, analysis and writing of the project, working closely with both their Capstone instructor and Capstone advisor in the process.

Students are encouraged by the department to design their Capstone projects in light of the coursework they have pursued in their chosen concentration. Because students' proposed capstone projects are matched with the expertise of particular faculty within the department, the latter expects that Capstone projects will involve student-faculty collaboration.

Some of the strengths of the interdisciplinary model of the International Studies program at ZU include: its effective incorporation of discipline-specific courses within an interdisciplinary curriculum, thus ensuring the integrity of those methodologies and paradigms associated with particular disciplines; its successful implementation of various strategies that have been documented as effective in promoting interdisciplinary learning, including thematically organized courses, interdisciplinary seminars at the Capstone levels, and collaborative learning; its ability to link interdisciplinary education to the needs of the job market; and the strong connections between the colloquy global awareness sequence and the majors courses, particularly the foundational courses common to both concentrations in the major. The global awareness sequence courses act as an effective 'recruiting ground' for students interested in International Studies. The courses provide them with a good introduction to interdisciplinary learning in





<sup>&</sup>lt;sup>3</sup> The American University of Sharjah for example.



the humanities and social sciences, addressing several important themes, methodologies, and paradigms that are taken up in more depth within the International Studies program.

In an environment that values educational skills tailored to the needs of the job market, it has been essential that the program in International Studies provide students with the tools needed to succeed in the real world. The required ten week internship program contributes to accomplishing this as does the two-track concentration offered in the Department. The 'Culture and Society' concentration promotes itself as preparing students for careers in cultural institutions, research centers, and social services in the private and public sectors. This is particularly important given recent efforts in Dubai and particularly Abu Dhabi to promote cultural and social initiatives that highlight national identity. The specialization in 'International Affairs' prepares students to work in government agencies and international institutions operating in the U.A.E. The two concentrations in the major also support the wider role CAS is playing in the community with its new graduate certificate in Diplomacy and International Affairs.

As an interdisciplinary program housed in an interdisciplinary department, the International Studies curriculum does face certain challenges common to interdisciplinary programs in other universities. To begin with, similar to the global awareness sequence within the colloquy program, there are ongoing debates surrounding what constitutes an 'interdisciplinary synthesis'. A core question at the heart of this debate is: Are faculty from specific disciplines better equipped than others to teach particular courses in the curriculum (along the same lines, should particular courses be taught primarily from the perspective of a particular discipline(s))? This debate is particularly pertinent to the more interdisciplinary courses in the majors curriculum. The recent incorporation of the English Literature faculty (and minor) within the Department has also generated debate regarding the role of the latter within the two concentrations majors program. Similar to the problem confronting the colloquy program, faculty within the Department of Humanities and Social Sciences need to participate in more professional development programs, seminars, etc. that specifically address recent trends and debates in interdisciplinary education. Interdisciplinary courses within the program are not consistently taught in a manner that gives justice to the methodologies and paradigms of various disciplines. Finally, while an interdisciplinary approach certainly exists and thrives within the humanities and social sciences at the university, there are not many instances of collaboration or interaction between the latter and courses offered in the natural sciences (or for that matter in other colleges, such as the College of Education). Faculty therefore lose sight at times of their broader role in providing students with a well-rounded liberal arts education. The development of a comprehensive liberal arts education is still very much a work in progress at ZU.

#### VI. Conclusion

Interdisciplinary education has been a core element in Zayed's mission to promote a liberal arts education in the region. While more research is needed, particularly in regards to the role of the natural sciences within a liberal arts education, the interdisciplinary approach has allowed for the promotion of the liberal arts in a context often dominated by skills-related fields. While there are certain common elements between ZU's approach to interdisciplinary education and that in various institutions in the US, there are also important differences. Similar to various western institutions, an interdisciplinary curriculum has been a core feature of the general education program at the university. Unlike many of these same institutions, however, ZU has helped promote the importance of general education by giving it its own administrative leadership







within the university. This has helped ensure and promote faculty commitment to the program, program innovation, and advocacy for general education at the institutional level. Through its 'International Studies' program and major, the university has also proven to be "ahead of the times" by moving beyond the more traditional discipline-based majors and departments that continue to prevail in many western universities. Although this has been motivated in part by practical factors related to education being tailored to the needs of the job market, it has nonetheless resulted in an innovative program of study at the majors level that promotes diversity and global learning in an integrative fashion-both through interdisciplinary courses and through internships that allow students to apply their learning beyond the classroom. Such initiatives and programs are only recently being implemented in various western universities As educators in various parts of the world increasingly recognize the merits of interdisciplinary education in promoting critical thinking, diversity and global awareness , the ZU curriculum in the humanities and social sciences-at both the general education and majors level-- provides a possible model to universities in the region and beyond.

### References

Abrahamson, Craig E. and William D. Kimsey (2002). General Education, Interdisciplinary Pedagogy and the Process of Content Transformation. *Education* 122(3), 587 - 594.

Association of American Colleges and Universities (2008). *Aim High and Make Excellence Inclusive: Strategic Plan 2008 - 2012*. Washington, DC: AAC&U.

Burton, Leon H. (2001). Interdisciplinary Curriculum: Retrospect and Prospect. *Music Educators Journal* 87(5), 17 - 21.

Council of Arts Accrediting Associations (1994). *Briefing Paper of the Council of Arts Accrediting Associations*. *Reston*, VA: Council of Arts Accrediting Associations.

Davidson, Christopher M. (2008). From traditional to Formal Education in the Lower Arabian Gulf. *History of Education* 37 (5), 633 - 643.

Downes, Margaret J. (2003). My Journey into International Liberal Education. *Liberal Education* 89 (1), 24 - 31.

Findlow, Sally (2008). Islam, Modernity, and Education in the Arab States. *Intercultural Education* 19 (4), 337 - 352.

Gardner, J. Emmett, Cheryl A. Wissick, Windy Schweder, and Loralee S. Canter (2003). Enhancing Interdisciplinary Instruction in General and Special Education. *Remedial and Special Education* 24(3), 161 - 172.

Green, Andy, Angela W. Little, Sangeeta G. Kamat, Moses Oketch, and Edward Vickers(2007). *Education and Development in a Global Era: Strategies for 'Successful Globalisation'* London: Department for International Development: Educational Papers, no. 69.

Jacobs, Heidi H., Ed. (1989). *Interdisciplinary Curriculum: Design and Implementation*. Alexandria, VA: Association for Supervision and Curriculum Development.

Kelly, James S. (1996). Wide and Narrow Interdisciplinary. *The Journal of General Education* 45(2), 95 - 113.

Kirdar, Serra (2006). The Development of Women's Education in the Arab World. In R. Griffin (Ed.), Education in the Muslim World: different perspectives (pp. 191 - 209). Didcot, Oxford:







Symposium Books.

Klein, Julie T. (1990). *Interdisciplinary: History, theory, and practice*. Detroit: Wayne State University Press.

Klein, Julie T. (1996). *Crossing boundaries: Knowledge, disciplinarities, and interdisciplinarities*. Charlottesville: University Press of Virginia.

Klein, Julie T. (2005). Integrative Learning and Interdisciplinary Studies. Peer Review 7(4), 8 - 10.

Kneedler, Richard, Ellen B. Magenheim, Henry A. Mauermyer, Julie L. Ramsey, Celeste Schenck, Edward K. Schoen, Robert A. Schneider (2008). Report to the President, Vice-President, Provost, Faculty, Administration, and Students of Zayed University in the United Arab Emirates by An Evaluation Team representing the Middle States Commission on Higher Education, http://webapp1.zu.ac.ae/zuaccr/EvaluationTeamReportZUfullreportv7.pdf, accessed March 21, 2009.

Krieger, Zvika (2008). Academic Building Boom Transforms the Persian Gulf. *Education Digest* 74 (1), 4 - 10.

Macpherson, Reynold, Pieter Kachelhoffer, and Medhat El Nemr (2007). The Radical Modernization of School and Education System Leadership in the United Arab Emirates: Towards Indigenized and Educative Leadership. *International Studies in Educational Administration (Commonwealth Council for Educational Administration & Management* (CCEAM)) 35 (1), 60 - 77.

Mazawi, Andre E. (2006). State Power, Faculty Recruitment and the Emergence of Political Constituencies in Saudi Arabia. *Education in the Muslim World: different perspectives. In R.Griffin (Ed.), Education In the Muslim World: different perspectives* (pp. 55 - 76). Didcot, Oxford: Symposium Books.

Miller, Raymond C. (1982). Varieties of interdisciplinary approaches in the social sciences. *Issues in Integrative Studies* 1, 1 - 37.

Mills, Andrew (2008). Emirates Look to the West for Prestige. *Chronicle of Higher Education* 55(5), A1-A24.

Nir, Adam E. (2006). The Blindness of Ideological Commitment: The Educational Tragedy of Arab/Jewish Co-Existence. *Journal of Curriculum Studies* 38 (6), 659677-.

Nowacek, Rebecca S. A Discourse-Based Theory of Interdisciplinary Connections. *Journal of General Education* 54(3), 171 - 195.

Schulz, Michael (2008). Reconciliation through education—experiences from the Israeli-Palestinian Conflict. *Journal of Peace Education* 5 (1), 33 - 48.

Shaw, Ken (2006). Muslim Education in the Gulf States and Saudi Arabia: selected issues. In R. Griffin (Ed.), *Education in the Muslim World: different perspectives* (pp. 41 - 54). Didcot, Oxford: Symposium Books.

Singh, Yogendra (1979). Constraints, Contradictions and Interdisciplinary Orientations: the Indian Context. *International Social Science Journal* 31 (1), 114122-.

Ward, Mark S. (2008). The Importance of International Education to Development in the Middle East. *Liberal Education* 94 (1), 36 - 41.

Webb, Matthew J. (2008). Humanities and Social Science Courses in Undergraduate Engineering Curricula: the Case of the Arabian Gulf. *European Journal of Engineering Education* 33 (3), 367 - 380.

Zayed University, http://www.zu.ac.ae/colloquy/, accessed March 2, 2009.



